(i) Printed Pages: 3 Roll No. .....

(ii) Questions : 9 Sub. Code : 0 5 5 0

Exam. Code : 0 0 0 6

B.A./B.Sc. (General) 6th Semester

(2042)

BOTANY

Paper—A : Plant Physiology—II

Time Allowed : Three Hours] **[Maximum Marks : 36**

Note :— Attempt *five* questions in all, including Question No. I which is compulsory and selecting **one** question from each Unit. Draw diagrams where necessary.

I. (A) Multiple choice questions :

(i) The water-soluble photosynthetic pigment is :

(a) Chlorophyll a

(b) Xanthophyll

(c) Anthocyanin

(d) Chlorophyll b

(ii) Oxidative phosphorylation usually refers to _____.

(a) Anaerobic production of ATP

(b) Citric acid cycle production of ATP

(c) Alcoholic fermentation

(d) None of the above

(iii) One of the following is not an auxin :

(a) Indole-3-acetic acid

(b) Malic hydrazide

(c) Indole butyric acid

(d) Naphthalene acetic acid

(iv) The formation of embryoids from the pollen grains in the tissue culture medium is due to _____.

(a) Organogenesis

(b) Test tube culture

(c) Double fertilization

(d) Cellular totipotency 4×1

(B) Fill in the blanks :

(v) The first acceptor of CO_2 in C4 plants is _____.

(vi) Complete the reaction _____ + O_2 → CO_2 + _____ + Energy.

(vii) Coconut milk contains a cytokinin called _____ which promotes plant growth.

(viii) Synthetic seeds are produced by the encapsulation of somatic embryos with _____. 4×1

UNIT—I

II. What is photophosphorylation ? Explain the process of cyclic and non cyclic photophosphorylation. 7

III. Discuss the source sink-relationship during transport of organic substance. Write the factors affecting translocation of organic solutes. 7

UNIT—II

IV. Discuss in detail :

(a) Glycolysis

(b) Pentose phosphate pathway. 4+3

V. Describe electron transport system in respiration and show the sites of ATP synthesis in an electron chain in mitochondria. 7

UNIT—III

VI. Write short notes on :

(a) Ethylene in fruit repining

(b) Auxin in apical dominance. 3+4

VII. What is plant movement ? Explain different types of plant movement. 7

UNIT—IV

VIII. Write short notes on :

(a) Cultural technique in tissue culture

(b) Isolation of protoplast. 3+4

IX. (a) Write the role of plant tissue culture in biotechnology.

(b) How are plant materials sterilized ? 5+2